WHAT IS CLAIMED IS:

1. A method for preventing islanding in a power system that includes a power grid having a feeder connected in circuit with a distributed generator and at least one load, said method comprising:

determining a phase shift of a voltage at an output of said distributed generator;

comparing said phase shift to a threshold phase shift that signifies a phase shift due to a disconnect of said grid from said feeder; and

if said phase shift is greater than said threshold phase shift, issuing a command for a disconnect of said distributed generator from said feeder.

2. The method of claim 1, wherein said phase shift is determined by a comparison of a current zero-crossing and a previous zero-crossing of said voltage.

3. The method of claim 2, wherein said comparison is based on a frequency f_n of said current zero-crossing and a frequency f_{n-1} of said previous zero-crossing.

4. The method of claim 1, wherein said phase shift is determined by:

$$\theta_n = 2\pi \cdot (1 - \frac{f_{n-1}}{f_n}) \quad ,$$

where θ_n is said phase shift and f_n and f_{n-1} are the frequencies of a current zero-crossing and a previous zero-crossing of said voltage, respectively.

5. The method of claim 1, wherein said phase shift is determined by:

$$\theta_{total} = \theta_{n-2} + \theta_{n-1} + \theta_n = 2\pi \cdot (3 - \frac{f_{n-3}}{f_{n-2}} - \frac{f_{n-2}}{f_{n-1}} - \frac{f_{n-1}}{f_n}) \quad ,$$

where θ_{total} is said phase shift, θ_n, θ_{n-1}, and θ_{n-2}, are the current, the first previous and the second previous phase shifts, respectively, and f_n, f_{n-1}, f_{n-2}, f_{n-3}, are the frequencies

of a current, a first previous, a second previous and a third previous zero-crossing of said voltage, respectively.

6. A controller for preventing islanding in a power system that includes a power grid having a feeder connected in circuit with a distributed generator and at least one load, said controller comprising:

a processor, a memory and an input/output unit, wherein said memory includes a grid disconnect program that causes said processor to perform the operations of:

determining a phase shift of a voltage at an output of said distributed generator;

comparing said phase shift to a threshold phase shift that signifies a phase shift due to a disconnect of said grid from said feeder; and

if said phase shift is greater than said threshold phase shift, issuing a command for a disconnect of said distributed generator from said feeder.

7. The controller of claim 6, wherein said phase shift is determined by a comparison of a current zero-crossing and a previous a zero-crossing of said voltage.

8. The controller of claim 7, wherein said comparison is based on a frequency f_n of said current zero-crossing and a frequency f_{n-1} of said previous zero-crossing.

9. The controller of claim 6, wherein said phase shift is determined by:

$$\theta_n = 2\pi \cdot (1 - \frac{f_{n-1}}{f_n}) \quad ,$$

where θ_n is said phase shift and f_n and f_{n-1} are the frequencies of a current zero-crossing and a previous zero-crossing of said voltage, respectively.

10. The controller of claim 6, wherein said phase shift is determined by:

$$\theta_{total} = \theta_{n-2} + \theta_{n-1} + \theta_n = 2\pi \cdot (3 - \frac{f_{n-3}}{f_{n-2}} - \frac{f_{n-2}}{f_{n-1}} - \frac{f_{n-1}}{f_n}) \quad ,$$

where θ_{total} is said phase shift, θ_n, θ_{n-1}, and θ_{n-2}, are the current, the first previous and the second previous phase shifts, respectively, and f_n, f_{n-1}, f_{n-2}, f_{n-3}, are the frequencies of a current, a first previous, a second previous and a third previous zero-crossing of said voltage, respectively.

11. A memory media for a controller for preventing islanding in a power system that includes a power grid having a feeder connected in circuit with a distributed generator and at least one load, said controller comprising a processor, a memory and an input/output unit, said memory media comprising a grid disconnect detection program that causes said processor to perform the operations of:

determining a phase shift of a voltage at an output of said distributed generator;

comparing said phase shift to a threshold phase shift that signifies a phase shift due to a disconnect of said grid from said feeder; and

if said phase shift is greater than said threshold phase shift, issuing a command for a disconnect of said distributed generator from said feeder.

12. The memory media of claim 11, wherein said phase shift is determined by a comparison of a current zero-crossing and a previous a zero-crossing of said voltage.

13. The memory media of claim 12, wherein said comparison is based on a frequency f_n of said current zero-crossing and a frequency f_{n-1} of said previous zero-crossing.

14. The memory media of claim 11, wherein said phase shift is determined by:

$$\theta_n = 2\pi \cdot (1 - \frac{f_{n-1}}{f_n}) \quad ,$$

where θ_n is said phase shift and f_n and f_{n-1} are the frequencies of a current zero-crossing and a previous zero-crossing of said voltage, respectively.

15. The memory media of claim 11, wherein said phase shift is determined by:

$$\theta_{total} = \theta_{n-2} + \theta_{n-1} + \theta_n = 2\pi \cdot (3 - \frac{f_{n-3}}{f_{n-2}} - \frac{f_{n-2}}{f_{n-1}} - \frac{f_{n-1}}{f_n}) \quad ,$$

where θ_{total} is said phase shift, θ_n, θ_{n-1}, and θ_{n-2}, are the current, the first previous and the second previous phase shifts, respectively, and f_n, f_{n-1}, f_{n-2}, f_{n-3}, are the frequencies of a current, a first previous, a second previous and a third previous zero-crossing of said voltage, respectively.

16. A method for preventing islanding in a power system that includes a power grid having a feeder connected in circuit with a distributed generator and at least one load, said method comprising:

determining a disconnect of said grid from said feeder by a phase shift procedure when a power mismatch between said distributed generator and said load exceeds a threshold; and

determining said disconnect of said grid from said feeder by either or both of an under/over frequency procedure and an under/over voltage procedure when any power mismatch does not exceed said threshold.